

**Comments of Seattle City Light Department  
Regarding United States Department of Energy  
Interstate Electric Transmission System  
Electric Reliability Issues Notice of Inquiry**

Pursuant to the notice published in the Federal Register on November 20, 2000, (65 FR 69,753 – 69,754) the Seattle City Light Department submits these comments to the United States Department of Energy regarding Interstate Electric Transmission System Electric Reliability Issues.

**Contact Information**

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**1. Summary**

The increasing incidence of system emergencies makes it clear that bulk power system reliability is deteriorating. While some allege that reliability standards can undermine competition, evidence from recent operating conditions strongly suggests that current market conditions and marketing practices have undermined reliability. Competition cannot be assumed to exist in the deregulated markets today. Market power abuse resulting in prices far in excess of competitive levels is transferring wealth from

consumers to merchant generators. The financial strain on distribution utilities caused by this financial dislocation may also affect distribution system reliability.

The Department of Energy and FERC must take immediate action to ensure that sufficient information is being analyzed by a broad base of regulatory and market interests to accurately analyze system adequacy and security. Furthermore, FERC must take actions to promptly restore adequate power supply capacity at just and reasonable rates.

## **2. Statement of Interest**

### ***A. Description of Seattle City Light***

When the citizens of Seattle incorporated a City in 1869, they adopted a charter that, among its many other provisions, authorized the newly formed municipality to purchase or construct the necessary facilities for lighting the City. This provision was first implemented in 1902 when Seattle's citizens voted a bond issue for construction of a power plant on the Cedar River. Seattle City Light was formed in 1910 and demand for lighting and power has grown ever since.<sup>1</sup>

Today the utility's vision statement is to become "the most customer-focused, competitive, efficient, innovative, and environmentally responsible municipally owned utility in the U.S." As a department of the City of Seattle, the utility operates for the benefit of its citizen-owners. Roughly 1,700 full-time employees serve more than 380,000 customers, and a population exceeding 680,000. It is now the nation's seventh largest publicly owned electric utility in terms of customers served. Its service area of 131.3 square miles includes the City of Seattle and north to the King County boundary, including the City of Shoreline and parts of Lake Forest Park, and extending south into the cities of Burien, Tukwila and SeaTac.

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<sup>1</sup> More information about the history of Seattle City Light can be found on the Internet at <http://www.ci.seattle.wa.us/light/>

## **1. Load**

Seattle City Light serves the City of Seattle, and all, or portions of, seven separate suburban jurisdictions, both North and South of the City borders. A maximum peak load of 2055 megawatts was reached in the winter of 1990. Because a high proportion of residential customers have electric space heat and little residential air conditioning, Seattle City Light peaks in the winter. Compared to residential load, commercial load is relatively flat. Industrial load is little affected by the seasons. Firm system load for 1998 was 1120 average megawatts, and is expected to grow at an average annual rate of 1.3 percent, reaching 1484 average megawatts by 2020. In 1998 commercial customers accounted for 45 percent of total consumption, residential customers accounted 34 percent, and industrial customers, 15 percent. The remaining 6 percent were for own use and line losses. Customers located in the suburban areas outside the Seattle City limits are responsible for about 16 percent of total consumption.

## **2. Resources**

Seattle City Light owns or has contracts for approximately 1,900 MW of hydroelectric generating capacity and obtains the remainder of its requirements primarily from the Bonneville Power Administration. The utility purchases over 1,500 MW of firm transmission capacity from BPA to wheel both Federal and non-Federal resources located in Eastern Washington and Idaho to its customers.

Seattle purchases power in the winter to meet its customers peak demand for electric heat and hot water and sells surplus energy from its hydroelectric resources during the spring. Balancing the utility surplus and deficits throughout the year involves approximately \$40 million in market-based transactions.

## **3. Transmission Dependent**

In spite of the significant dimensions of load and population served, Seattle's electric system is a compact internal grid of high-voltage subtransmission and distribution circuits with radial transmission facilities that tie the internal grid to Seattle's power

resources.<sup>2</sup> Given this topology, Seattle City Light is a transmission dependent utility. It relies on its own facilities, as well as the transmission assets of other entities, to deliver reliable power to its citizen-owners.

The utility is interconnected with Puget Sound Energy (“Puget”), which wheels power from Seattle’s municipal water projects located in Puget’s service territory. Seattle has five interconnections with the Bonneville Power Administration in the Puget Sound region, and connects its non-Federal remote projects with host utilities that interconnect to various other BPA points.

#### **4. Control Area within BPA**

Seattle City Light operates its system as a control area. The Department must not be misled by this term—not all control areas can significantly affect regional commerce. A control area is simply an engineering term that describes a combined system of power circuits that connect electrical generators and loads, and telemetry circuits that meter real-time power flows at the control area tie points with other systems. Unlike the vast systems of WAPA and BPA, Seattle’s control area is virtually a single point in the Western Interconnection that continuously balances its load with adequate supply and reserve resources to ensure that it meets NERC and WSCC requirements.<sup>3</sup> Hierarchical distributed control responsibilities, much like distributed data processing, are robust and tend to enhance reliability. And most importantly, Seattle’s control area has ensured its ability to independently secure the power resources chosen by the people of Seattle.

Being surrounded by the BPA control area, Seattle must coordinate its external resources with BPA and the Pacific Northwest Security Coordinator. These include capacity

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<sup>2</sup> Seattle’s 88.3 circuit miles of overhead and underground subtransmission, and 656.6 circuit miles radial transmission circuits are rated at 115 and 230 kilovolts. Four of the 230 kV radial circuits are dedicated to transmitting power from Seattle’s Skagit hydroelectric facilities over a distance of nearly 90 miles. The other 115 and 230 kV radial transmission facilities connect Seattle substations within its service territory and to its points of interconnection with BPA. Its internal distribution circuits are rated at 13.8 kV and 26 kV, and there is one 34.5 kV line.

<sup>3</sup> In comparison, the BPA transmission system alone consists of over 14,000 miles of circuits that are rated in excess of 115 kV.

resources (along with reserves), maintenance schedules, purchased power, power sales and energy schedules. Seattle's internal resources, including Skagit hydroelectric power delivered directly to Seattle's Bothell substation, are essentially netted against its load internally without any need for scheduling with BPA. To assist with security coordination, Seattle provides BPA with near-real-time operating data from telemetry points on its generation, transmission and major distribution facilities.

## **5. Participation in Western regional processes**

Seattle is active in many regional and interconnection-wide forums. The Superintendent is a member of the WSCC Board of Trustees, and the utility has participated in this reliability organization since its inception. City Light also serves on the Boards of the Northwestern and Western Regional Transmission Associations, and is a long time member of the Northwest Power Pool, the Pacific Northwest Coordination Agreement and the Canadian Storage Power Exchange Treaty.

## **3. Responses to Questions in the Notice of Inquiry**

### ***A. Is voluntary compliance sufficient to ensure reliability?***

While reliability has been jeopardized by violations of existing bulk power reliability standards, it is not clear that these are willful violations that mandatory compliance methods can prevent.

Market design policies intended to address system adequacy have placed well-meaning parties in violation of fundamental reliability standards. In spite of open-access transmission policies intending to make provision of reserves an ancillary service requirement, it is not clear that all parties are held to the same reserve requirements. Inadequate transparency of actual, physical market conditions has compounded the problem by distancing market participants from obligations to maintain a secure system status.

Whether compliance is deemed voluntary or mandatory, measures of performance should be consistently applied to comparable segments of the market. The first priority must be to define the functional responsibilities of the market segments. The historical practice of applying control area standards in a “one-size-fits-all” way is no longer appropriate. NERC is in the process of redefining operating functions and responsibilities through the efforts of its Control Area Criteria Task Force (CACTF).<sup>4</sup> FERC is pressing for implementation of RTOs under Order 2000. These two processes will greatly affect the functional responsibilities of each market segment in the future. No mandatory compliance regime will work until there is greater certainty regarding the outcome of these processes.

### ***B. What can FERC do under existing authorities?***

FERC must monitor markets to ensure adequacy and eliminate market power conditions. To do this effectively, FERC needs prompt, public disclosure of data on generator output and commitments for adequacy assessment, and data on transmission system conditions for security assessment. Disclosure delays longer than a few hours will not permit timely identification of evolving system conditions or resolution of market abuse.

“Commercial sensitivity” arguments have left the public powerless to monitor market concentration and the results have been financially catastrophic. Given FERC’s resource limitations, public vigilance over market conditions is necessary. To the extent that all market participants are subject to equal, open disclosure rules, no single entity is subject to undue harm.

FERC must be prepared to take swift enforcement action against public utilities and exempt wholesale generators that abuse market power. When market conditions are extremely volatile, large transfers of wealth accrue to entities that gain market power affording them large war chests to defend the spoils of any abuses that may have occurred.

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<sup>4</sup> North American Electric Reliability Council. Basic Operating Functions and Responsibilities: A White Paper by the Control Area Criteria Task Force Version 2. October 5, 2000

### ***C. May FERC delegate to a self-regulating reliability organization (SRRO)?***

FERC may delegate standards development, compliance monitoring and dispute resolution to an SRRO or ARRE. Any delegation of authority must first be based on a finding that such an organization has independent governance, balance of interests, openness, written procedures for standards development, and due process for standards and compliance review. FERC may find that additional functions and characteristics of such organizations are also required.

Regardless of its authority to delegate reliability standards and compliance management functions, FERC must continue to take any action needed to ensure just and reasonable rates.<sup>5</sup> This responsibility cannot be assumed to be carried out by reliance on “market forces” nor can it be delegated to an SRRO. During energy emergencies market power is typically concentrated in local areas and small regional markets where customers have supply few alternatives.

### ***D. Are there elements of CECA that can be used in a FERC rulemaking?***

Seattle City Light reserves comments on this question. To the extent that CECA has provisions for comprehensive restructuring (e.g. retail wheeling, PUHCA reform, and any reduction in FERC authority over Exempt Wholesale Generators) Seattle City Light opposes enactment of this title.

### ***E. Relationship between RTOs and SRROs***

A reliability management continuum can be formed that involves all industry segments and stakeholder interests without upsetting responsibilities and authorities that reside

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<sup>5</sup> 16USC824d

within each party.<sup>6</sup> For example, RTOs may have operational responsibilities that concern reliable regional bulk power commerce. In many instances, RTOs may need to develop regionally unique operating standards that are variances to SRRO standards. In the West, it is further envisioned that a Western Interconnection Organization (WIO) may be formed as an Affiliated Regional Reliability Entity (ARRE) that may request variances to North American reliability standards in order to meet specific needs of the Western Interconnection. Any proposed rule must explicitly contemplate the need for variance processes.

Another example of the need to recognize diversity within the reliability management continuum is the relationship that exists between the local distribution utilities that are Load Serving Entities (LSEs) and the RTO. LSEs will likely operate distribution systems that are dependent on bulk energy from the regional transmission network. LSE distribution systems typically develop their own reliability standards to meet the requirements of their local jurisdiction. The SRRO and RTO should not be permitted to impose unreasonable reliability requirements on LSEs when there are not material external impacts caused by the LSE distribution reliability standards.<sup>7</sup>

### ***F. Respective roles of FERC and the States***

State and local authorities must retain jurisdiction over local transmission and distribution system reliability where local actions and events create no material external impacts. FERC's role should be focused on regional, interstate transmission facilities that affect transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce.<sup>8</sup>

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<sup>6</sup> The term “continuum” was chosen over “hierarchy” because it has become clear that each segment of the industry has an equal stake in reliability management. No segment should claim supremacy over another as the hierarchical structure might imply.

<sup>7</sup> The term “Material External Impacts” or MEIs is being used by the WICF restructuring groups to identify a criteria where responsibility for reliability compliance and enforcement shifts from the LSE to the RTO and from the RTO to the WIO. See WIO Detailed Proposal at <http://www.wrta.net/detailedproposal100200.pdf>.

<sup>8</sup> 16USC824(a)



The Federal government must avoid the temptation to extend its reach into the routine operations of distribution systems that have the primary purpose of delivering energy to load at lower voltages. Seldom will local decisions regarding distribution system operations and planning materially affect regional bulk power transmission.

### ***G. Implementation and coordination of standards with Canada and Mexico***

Canada has significant commercial interests in United States wholesale power markets. Seattle has not analyzed the commercial interests of Mexico, but assumes that its interests are comparable to those of Canada. Given the strong interactions between commercial and reliability interests in wholesale power, a fundamental principle of comparability must be established in the development and enforcement of commercial practices and reliability standards. While recognizing the sovereignty of each country to promulgate its own unique regulations, each country should agree at the outset on principles that ensure consistent coordination of standards and mechanisms for compliance review and enforcement. FERC Order 888 prescribed reciprocity conditions as incentives for non-jurisdictional and international interests to adopt comparable open access provisions. Similar approaches to reliability management may be warranted.

## **4. Other Comments**

### ***A. Bulk Power Market Effects on Distribution System Reliability***

Financial distress to electric distribution companies, such as municipalities, caused by wholesale power market flaws can have extremely negative impacts on distribution system efficiency and reliability. Because jurisdiction over distribution service is a local not Federal, matter there are no Federal powers that can be used to remedy these impacts. The only solution is to prevent the transfers of wealth that lead to the financial erosion of electric distribution companies.

Seattle City Light estimates that its purchased power expenses for year 2000 will be approximately \$100 million over-budget. In addition to imposing emergency rate increases, the City expects that it will need to postpone capital improvements to generation, transmission and distribution facilities. The reliability impact of these postponements cannot be readily determined given the long-term nature of system replacements and improvements. Postponing capital improvements will initially affect the ability to support load growth and ultimately, if facilities are not replaced, reliability will suffer as distribution system components simply wear out.

## ***B. Need for Open Disclosure of Information***

### **1. CAISO Redactions During December 2000 Emergencies**

During the past few weeks, the Secretary of Energy provided the California Independent System Operator (CAISO) several certifications finding that an energy emergency existed in California.<sup>9</sup> Accompanying many of these certifications was an analysis of system conditions intended to provide reasons for the certifications. While the summary data was presented, many sections contained the qualifying phrase “*Redaction -- market sensitive information.*” At the same time, the CAISO used these certifications to compel market participants in other regions to provide detailed enumeration of available resources, e.g. many Northwest utilities, including City Light, were required to provide this information. Seattle City Light questions whether a “market” with “market sensitive information” can exist in such an emergency. Effective reliability management will require openness not secrecy. We remain highly skeptical of the findings in light of the secrecy afforded in these circumstances.

Independent analysis of CAISO reserve margins during the November and December emergencies indicates that outage rates far in excess of statically normal values.<sup>10</sup> In

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<sup>9</sup> Order issued December 14, 2000, pursuant to Section 202(c) of the Federal Power Act (16 U.S.C. 824a(c)) and 10 C.F.R. § 205.370.

<sup>10</sup> The following data is taken directly from ISO sources. Primary sources are the ISO emergency log, UCEI monthly data, and the ISO filing with the WSCC. No analytic adjustments have been made.

November, the California ISO declared six Stage 1 and four Stage 2 emergencies. According to the California ISO's forecasts, they had a reserve margin of 43% in November, compared to a reserve margin of 36.7% for the rest of the WSCC. In the course of the November emergencies, California had an outage rate of 29.1% calculated by taking actual loads and comparing with ISO minimum reserve requirements. Reported outages outside of the ISO control area for November was 1.72%. California ISO loads during emergencies in November were only 87% of the peak forecasted for the month. Imports into the California ISO were 256% of forecasted levels.

In December, the California ISO declared seventeen Stage 1, fifteen Stage 2, and one Stage 3 emergencies. According to the California ISO's forecasts they had a reserve margin of 39% in December, compared to a reserve margin of 27.4% for the rest of the WSCC. In the course of the December emergencies, the California ISO had an outage rate of 28.9% of their total resources. Reported outages outside of the ISO control area for December were 2.34%. California ISO loads during emergencies in December were 95.4% of forecasted loads for the month. Information on imports is not available yet.

## **2. Use of 10CFR205.352 to obtain and disseminate accurate information**

The Department of Energy can use its authority under 10CFR205.352 to obtain accurate information about the nature of any emergency situation. Furthermore, DOE should assume that this information can and should be provided to other interconnected electric utilities and market participants as soon as possible so that they can assist in resolving the emergency. Again, to assume that a workable market exists in an emergency is imprudent. Protecting crucial system information in an emergency situation with claims “market sensitiv[ity]” elevates levels of distrust thereby complicating resolution. It is ironic that while off-the-shelf technology exists to securely move this information to all market participants, those who could use greater cooperation of other market participants

feel compelled to hide behind such a flimsy veil.<sup>11</sup> Is it ironic that cries for secrecy are heightened during emergencies?

### ***C. Failure of Transitional Deregulated Market Structures to Make Adequate Capacity Available***

There has been a vision within the reliability community that a properly structured bulk power market will help ensure reliability.<sup>12</sup> This vision may hold true, but the converse appears to also be true: an improperly structured bulk power market will not ensure reliability. As the industry continues its transition to deregulated wholesale power markets, reliability problems have become commonplace. The existence of workable competition must be questioned, and if found absent, public policy must be redirected not only to remedy market power abuse to ensure competition, but more importantly to ensure reliability.

In October 2000, NERC published a Reliability Assessment that indicated adequate reserves existed, or were forecast to be built, in all regions during the near-term (2000 – 2004) and long-term (2005 – 2009).<sup>13</sup> In particular the WSCC Self Assessment states that “projected resource capacity is expected to be adequate for the assessment period throughout WSCC.” What went wrong? The technical approach to these assessments leads to the conclusion that sufficient capacity exists in the market. If this is the case, it might be concluded that the market failed to effectively deliver this capacity to the system when it was needed. Furthermore, one can also question the efficiency of the market given the unprecedented prices demanded by power suppliers during the past few months.

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<sup>11</sup> See letter from CAISO to Dennis Eyre, Director of WSCC, dated October 11, 2000. In this letter, CAISO explains its reasons for withdrawing from the WSCC EHV Data Pool. The Data Pool posted near-real-time system information on the internet. Unfortunately WSCC imposed a criteria for subscribing to the Data Pool that was unduly discriminatory, e.g. State regulatory agencies and consultants were not allowed access to the Data Pool. This raised suspicions of tacit collusion among Data Pool subscribers.

<sup>12</sup> See Market-Reliability Interface Collaborative Planning Initiative. Presentation to the Board of Trustees North American Electric Reliability Council. September 20, 2000. Page 6.

<sup>13</sup> North American Electric Reliability Council. Reliability Assessment 2000 – 2009. October 2000.

FERC and DOE should revise their reports on the benefits of competition in the electric power industry to reflect empirical values observed in recent months.<sup>14</sup> An honest examination of the rush to regulatory restructuring and its failures is urgently needed.

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<sup>14</sup> FERC Order 888 projects “approximately \$3.8 billion to \$5.4 billion in benefits per year of cost savings expected from competition under the Rule.” DOE’s report titled Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities, (DOE/EIA-0614, August 1997), predicted that “If the price reductions already occurring were added to those resulting from full-scale competition in generation services, prices by 2000 could be 8 to 15 percent below where they would have been in the absence of competition and incentive regulations.”